AMENDMENTS TO THE SPECIFICATION

Please add the following two new paragraphs after the first paragraph on page 8 (i.e., page 8, after line 2):

Figure 6 shows a method for transmitting at least one message including the steps of coding each of the at least one message using a respective orthogonal function so as to form a transmission signal, each respective orthogonal function being an approximation of a respective Hermite function 30; performing a Fourier transform on a received signal 31; decoding the Fourier transformed received signal using the respective orthogonal function so as to obtain the at least one message 32; and modulating the transmission signal into higher frequency domains 33.

Figure 7 shows a method for transmitting at least one message, including the steps of coding, using a coding device at a transmission side for coding, each of the at least one message using a respective orthogonal function so as to form a transmission signal, each respective orthogonal function being an approximation of a respective Hermite function 34; and recovering, using a demodulation device at a receiving side, the at least one message from a received signal via a decoding using the respective orthogonal function, the demodulation device including a Fourier-transform device for performing a Fourier transform on the received signal before the decoding. The demodulation device may include a respective first decoder unit corresponding to each of the at least one message, each respective first decoder unit including a respective first multiplier, a respective first integrator and a respective first discriminator connected in series. Each respective first decoder unit may be used for decoding the signal in a time domain. The demodulation device further may include a respective second decoder unit associated with each respective first decoder unit, each respective second decoder unit being for decoding the signal in a frequency domain and including a respective second multiplier, a respective second integrator and a respective second discriminator connected in series.